

REMARKS

Claims 1-10 are pending and under consideration.

Claims 1-10 are rejected under 35 USC 103(a) as being unpatentable over JP Patent No. 08-137508 (Kajiwara) in view of US Patent No. 5,018,202 (Takahashi).

The claims are amended, and, thus, the pending claims remain for reconsideration, which is requested. No new matter has been added.

The independent claims are 1-8.

Claim 1 is amended by requiring "the transfer function including dead time," namely "acquiring time series data of values which is outputtedoutput from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputtedinput to the transfer function including dead time." The use of 'dead time' is supported by paragraph [0019] in the specification.

In addition, claim 1 is amended to require "identifying one or more parameters of the transfer function so that optimize an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or optimize a value derived from the error, by setting an initial value for the one or more parameters and repeatedly changing values of the one or more parametersbecomes optimum." The initial value setting is supported by paragraph [0044], and the repeatedly changing values of the parameters is supported by paragraphs [0049] and [0050].

Independent claims 2-8 are amended to require similar limitations.

Claim Rejections - 35 USC 103

Nothing has been cited or found that JP 08-137508 (Kajiwara) and USP 5,018,202 (Takahashi) expressly or implicitly disclose the claimed transfer function includes the dead time, and that the model of the controlled object is generated by repeatedly changing values of the one or more parameters. In other words, a *prima facie* case of obviousness based upon Kajiwara and Takahashi cannot be established, because no evidence has been found or cited expressly or implicitly that one skilled in the art would combine Takahashi and Kajiwara's typical transfer function having a primary delay and a secondary delay and then further modify Kajiwara and Takahashi's transfer functions to provide the claimed "acquiring time series data of values

which is outputtedoutput from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputtedinput to the transfer function including dead time," and "identifying one or more parameters of the transfer function so that optimize an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or optimize a value derived from the error, by setting an initial value for the one or more parameters and repeatedly changing values of the one or more parameters," and seen a benefit of generating a model which is for the time series data of manipulated variable (MV) including the dead time and that handles any discontinuity because of the dead time. Kajiwara and Takahashi cannot achieve this benefit.

This is because a benefit of the embodiment is that time series data including the dead time plots the curves as shown in Figs. 5-8 of the present application, which has discontinuity. In other words, the dead time gives the discontinuity. And, the primary delay and secondary delay alone cannot follow or match with the discontinuous curves shown in Figs. 5-8 of the present application. Therefore, the embodiments provide a transfer function that includes the dead time, and the model of the controlled object is generated by repeatedly changing values of the one or more parameters. That is, a benefit of the embodiment is that even when the time series data including the dead time plots the curves shown in Figs. 5-8, which has discontinuity, "the acquired time series data of manipulated variables ... input to the transfer function including dead time" can follow or match with the discontinuous curves shown in Figs. 5-8, because of "identifying one or more parameters of the transfer function so that optimize an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or optimize a value derived from the error, by setting an initial value for the one or more parameters and repeatedly changing values of the one or more parameters." Thus, the embodiments provide a benefit of generating a model which is for the time series data including the dead time.

Withdrawal of the rejection and allowance of the claims is requested.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If any further fees are required in connection with the filing of this Amendment, please charge our Deposit Account No. 19-3935.

Respectfully submitted,
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